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ABSTRACT

The postsecondary activities of 16,759 hearing and 21 hearing impaired graduates of 1973 vocational education programs in Pennsylvania were compared. Both groups were administered the High School Graduate Followup Career Survey, which measured such factors as motivation to work in the field of study, time period before full-time employment, and gross salary distribution. Results indicated that over half the hearing impaired Ss obtained their jobs through parents or relatives compared to 12% of the hearing Ss; none of the hearing impaired Ss obtained jobs through school cooperative programs, which were cited by 15% of the hearing Ss. Other results suggested that more hearing impaired graduates worked rather than going to college. Findings pointed to the need for a greater variety of work oriented programs and supportive services for the hearing impaired. (CL)

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COMPARISON OF HEARING IMPAIRED TO HEARING GRADUATES
ON THE HIGH SCHOOL GRADUATES FOLLOW UP CAREER SURVEY
(Project No. 196008)

by

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Northeastern Educational Intermediate Unit #19
Scranton, Pennsylvania

July 1, 1976

PENNSYLVANIA DEPARTMENT OF EDUCATION
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ABSTRACT

This research was conducted to compare hearing impaired with hearing graduates from a vocational education program for 1974. It was part of a state-wide follow-up study of all Pennsylvania Hearing Impaired Graduates from 1970-75.

The researcher analyzed and compared present status, motivation to work in the field of study, job line up prior to graduation, time period before full-time employment, gross salary distribution, relationship of high school training to employment, methods used to obtain full-time employment and post secondary education of the graduates.

It was reported that about 71% of the hearing impaired graduates and 61% of the hearing graduates were employed full-time. Also, more than half of the hearing impaired graduates began work immediately after high school. It was felt this was so because more hearing graduates, approximately 14.7%, were attending some form of post-secondary education. Whereas, only about 9% of the hearing impaired graduates were enrolled in school. It was concluded that more hearing impaired graduates worked as opposed to furthering their education.

It was also found that almost half of the hearing impaired graduates tried, but could not find a job in the field for which they were trained.

The researcher suggested that vocational education programs for the hearing impaired sophisticate their co-op programs. Many hearing graduates reported they obtained their job thru such programs.

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I. INTRODUCTION

Follow-up studies of deaf adults are by no means a new phenomenon. For years, educators of the hearing impaired have been concerned about the post-secondary activities of their graduates. Many residential schools for the deaf have been and continue to conduct follow-up studies of their graduates. These studies collected data on present status, salary distribution, types of employment, methods used to obtain employment and other relevant questions. Such studies have also helped evaluate the strengths and weaknesses of school vocational programs.

This research was part of a statewide follow-up study of hearing impaired graduates in Pennsylvania from 1970-75. The project was evaluated and approved for funding by the Bureau of Research, division of Vocational Rehabilitation in the state of Pennsylvania.

The objective of this research was to compare hearing impaired with hearing graduates from 1974 on the "High School Graduates Follow-Up Career Survey."

PURPOSE

We live in a hearing world. When the hearing impaired graduate leave school he enters the hearing society. He has to compete for jobs and positions. Teachers, counselors and administrators have been aware of this and have attempted to educate the hearing impaired so that he may function successfully in the hearing world.

The purpose of this research was to locate and interview 1974 hearing impaired graduates from vocational educational programs within the State of Pennsylvania and compare these results with hearing graduates for the same year.

The researcher was concerned to see if the hearing impaired graduates function as successfully as the hearing graduates with regards to post-secondary activities. The "High School Graduates Follow-Up Career Survey" formed the basis of this comparison. Specifically this research compared the hearing impaired to hearing graduates on the following areas. Questions asked were also included.

1. Present Status:
Mark each that refers to you
--I work full time
--I work part-time
--I do not work, but am looking for a job
--I do not work
--I take care of my house all the time
--I go to college full time
--I go to college part-time
--I go to vocational school full time
--I go to vocational school part-time
2. Motivation To Work In Field of Study:
When you left school, did you want a job doing what you did in school?
3. Job Line Up Prior To Graduation:
Did you have a full time job before you left high school?

4. Time Between Graduation And First Job:
How long after you left school did you start your first full time job?
5. Average Earnings of Graduates:
How much money do you make a month before money is taken out for taxes?
6. Student Rating Of Vocational Training:
Did your school do a good job in training you for the job you have now?
7. Relatedness Of Jobs Held To Training:
Do you use what you learned in school in the job you have now?
8. Reasons For Not Entering Field For Which Trained:
What was the reason for not getting a job like you were trained for in school?
9. How Students Found Their Jobs:
How did you get your first full time job after you left school?
10. Post-High School Education:
What kind of school do you go to now? Is it in Pennsylvania? Do you live at home or at school? Does what you're studying now have anything to do with what you were trained for in high school?

JUSTIFICATION

Unfortunately the bulk of follow-up studies of hearing impaired graduates have been limited to schools for the deaf: Central Institute (Hirsch, 1952); Kansas School (Mog, 1954); Clarke School for the Deaf (Bruce, 1960); New York City Public School (Justman and Moskowitz, 1963). The problem with school follow-up surveys was that they had nothing with which to compare their results.

With the growth of vocational or occupational programs among the hearing impaired some regional studies were conducted to determine the need for regional technical-vocational training centers. Such as Boatner, Stuckless and Moores (1964) and Kronenberg and Blake (1966). With such surveys the researchers were not concerned in comparing the hearing impaired graduates to another group but rather justifying the need and demand for a training center.

Every fall the Pennsylvania Bureau of Vocational Education conducts a statewide follow-up of hearing graduates of secondary level vocational education programs. The purpose of such surveys was to collect follow-up data in order to evaluate the effectiveness of secondary level vocational education in Pennsylvania. The bureau was interested in finding the major weaknesses and strengths in vocational education as seen by the post-high experiences of the program graduates. This information was necessary for state level planning in order to improve effectiveness. A year to year comparison of surveys showed improvements and areas that needed improvement (Pennsylvania Vocational Education Management Information Directory, 1973).

The vocational education department of Pennsylvania School for the Deaf in Philadelphia, annually, conducts face-to-face interviews with their graduates. The purpose of their interviews was to locate their graduates, collect data to evaluate the program effectiveness and help plan for future programs (Pennsylvania School for the Deaf, 1972-73 and 74).

These comparative studies were used to evaluate program effectiveness. It was very important, especially for future programs, that the educators knew where the hearing impaired and hearing graduates failed in employment and post-secondary activities, why and what possible implementations could have changed this.

According to Boatner (1964) a program is deficient if it doesn't equip an individual to attain the basic needs including the ability to earn a living by performing some needed function.

The problem was that educators of vocational education programs for the hearing impaired wanted their graduates to function and succeed with their hearing peers. The researcher was aware of this need and wanted to determine if the hearing impaired graduate was performing the same needed function as the hearing graduate for the same year.

The researcher wanted to compare two groups, the hearing impaired and hearing graduates of vocational education programs who graduated in the same year. This kind of research was very scarce. Comparing the two groups was the only logical way to find out where the hearing impaired graduates failed and why. Such information was vital for the future planning of programs for the hearing impaired.

The researcher hoped that that this study would show the need to compare hearing impaired graduates to their hearing peers and that regular studies would be initiated.

LIMITATIONS

The following limitations were utilized in this study.

Hearing Graduates:

Some graduates did not return the questionnaire. Postage paid, pre-addressed envelopes were enclosed with each mailing. A second questionnaire was mailed to the graduate two months later. The local school district was given the option of enclosing a personal appeal to the graduates to respond to the questionnaire.

Hearing Impaired Graduates:

Some graduates were hesitant to be interviewed. The interviewers used friend, relatives and themselves to convince the graduates that they were helping impaired graduates and those still in school.

Hearing and Hearing Impaired:

Results were influenced by the willingness of the graduates to respond to the survey instrument in a truthful and objective manner. The graduates were assured that all responses would be held in the strictest confidence and only used by those working on the study to prepare a statistical summary of the information. The results were to be used on a collective basis and no individual or agency would be named.

Some students hesitated in answering some of the questions. They were reminded of the confidentiality and also the importance to have all applicable questions answered.

DEFINITIONS

For purpose of clarity the following terms were defined. This paper dealt with both deaf and hard of hearing graduates.

(DEFINITIONS - continued)

Deaf - Those people whose hearing loss is so severe they cannot understand corrected speech with or without amplification.

Hard of Hearing - Those people whose hearing loss is not so severe as to interfere with their understanding of corrected speech with or without amplification.

Hearing Impaired - A generic term encompassing both deaf and hard of hearing.

Prevocational - Development of basic attitudes, experiences and skills which prepare a student for vocational training.

Vocational Training - Includes such occupations as linotype operator, body and fender man, upholsterer, plumber, electrician, carpenter, bricklayer, typist, key punch operator, power punch operator, taxi driver, nurses aide, lens grinder, T.V. repairman, watch repairman, rodman and similar occupations.

Technical training - Includes such occupations as dental technician, draftsman, programmer, designer, lab technician, cartographer, surveyor and similar occupations.

Unskilled employment - Those occupations which require no training.

Semi-skilled employment - Those occupations which require a minimum of on-the-job training.

Skilled employment - Those occupations which require formal vocational training (Ott, 1964).

HYPOTHESIS

The researcher attempted to determine if there was a difference between hearing and hearing impaired graduates of a vocational education program in Pennsylvania for the 1974 school year.

1. Present Status

Hearing Graduates:

The researcher felt that the hearing graduates would show a higher percentage of full time employment and higher percentage of full time post-secondary education (including college and post-high school vocational training).

Hearing Impaired Graduates:

The research expected the hearing impaired graduates to have a higher percentage of part time employment, unemployment but looking for work, unemployment, homemaker, part-time post secondary education (including college and post high school vocational training).

2. Motivation To Work In Field Of Study

It was felt that the hearing graduates would have a higher interest in getting a job in the area trained for.

3. Job Line Up Prior To Graduation

It was expected that more hearing graduates would have had their job lined up before they left school.

4. Time Between Graduation And First Job

The hearing graduates were expected to start work sooner than the hearing impaired.

5. Average Earnings of Graduates

The research speculated that the hearing graduates would make more money than the hearing impaired graduates.

6. Student Rating Of Vocational Training

Hearing graduates would have rated their school training much higher than the hearing impaired graduates.

7. Relatedness Of Jobs To Training

The researchers felt that the hearing graduates would have a higher relationship of high school training to their present employment.

8. Reasons For Not Entering Field For Which Trained

It was felt that more hearing impaired graduates wouldn't get a job in the field of study because they couldn't find a job.

9. How Students Found Their Jobs

Hearing Graduates:

The researcher thought that the hearing graduates would have utilized employment agencies more than the hearing impaired.

Hearing Impaired Graduates:

It was expected that the hearing impaired graduates would have used their friends and relatives more so than the hearing graduates.

10. Post-High School Education

The researcher felt that more hearing graduates would attend college or school outside of Pennsylvania and live at school.

SUMMARY

This study was a section of a state approved follow-up research of all hearing impaired graduates in Pennsylvania from 1970-75.

The researcher's primary goal was to locate, collect data and compare the results of hearing impaired to hearing graduates of a vocational education program in Pennsylvania for the 1974 school year.

Areas researched were present status, motivation to work in the field of study, job line up prior to graduation, time period before full time employment, gross salary distribution, relationship of high school training to employment, methods used to obtain full time employment, type and location of college or school and residence of the graduates. The researcher wanted to determine if the hearing impaired graduates function as successfully as their hearing peers.

The researcher felt that the hearing graduates would have a higher percentage in the several areas studied.

II. REVIEW OF RELATED RESEARCH

INTRODUCTION

This chapter dealt with reviewing studies involving both hearing and hearing impaired graduates. The chapter was divided into four sections: research on hearing graduates, research on hearing impaired graduates, research comparing hearing and hearing impaired graduates and a conclusion. Both early and current studies were included. In the section concerning hearing graduates, the literature was limited to follow-up studies of graduates from vocational education programs. In the hearing impaired section workshops and follow-up studies were cited. Local, regional and statewide studies were included.

RESEARCH ON HEARING GRADUATES

Since 1968 the Pennsylvania Bureau of Vocational Education has conducted follow-up studies of all graduates of secondary level vocational education programs. The 1973 survey reported the following findings. About 58% of the graduates were full time employed, 19% were in some form of post-secondary education, 5.5% were in the military, 2.1% were full time homemakers and 11% were unemployed and looking for work. The most frequent method (57%) of seeking employment was to ask for the job in person. More than half (61.5%) of the graduates reported receiving guidance from their high school. The average time period before starting full time employment was 3.8 weeks. The study reported an average wage of \$452.20 per month.

The Nassau County of New York conducted a follow-up survey of vocational-technical graduates from 1965-69. They collected data on labor status and the kinds of job held. It correlated the relationship of their job to their hearing school training. They were interested in the summaries and opinions of the former students regarding their vocational education experience (Nassau County Board of Cooperative Education Services, 1973).

Gustilo and Trufant (1974) conducted a study of all the students enrolled in Virginia Community College occupational-technical programs for the years 1966-1969. This was done to help in the future statewide decisions on vocational education. They obtained data on 6,387 students.

They found that 99 of the students were in different occupational-technical curriculums. About half of the studies were in business related programs; approximately a third of them were in engineering and 12% were in public services, health services and communication programs.

RESEARCH ON HEARING IMPAIRED GRADUATES

The first study conducted on the vocational status of hearing impaired graduates concerned the employment of 422 graduates of the American Asylum for the Deaf. In 1866, it was reported that over 50% of the 368 employed males were in the following seven occupations: 20 shoemakers, 20 mechanics, 17 carpenters, and 15 teachers. Of the 54 employed females it was found that 27 were mill operators. The wages of the 422 employed were consistent with the general wages in New England (Moore, 1964).

Fusfeld (1926) examined the vocational training offered in 29 schools for the deaf and the occupations of the graduates. The most frequent reported occupations were printing, carpentry, farming, shoe repairing and dressmaking. The school's reports suggested that approximately 50% of the graduates entered occupations for which they were trained.

Starting in the mid 60's and continuing to the present there has been more activity and concern about the employment status of graduates and dropouts of schools for the deaf than in any other similar period in education of the hearing impaired (Parks, 1964 as quoted in Kronenberg and Blake, 1966). This was evidenced by the follow-up research.

Lunde and Bigman (1959) conducted the first large occupational study among deaf adults. They found that 78% of the respondents were employed. Eleven percent were housewives. Approximately 70% of the employed held skilled or semi-skilled jobs. Job stability and satisfaction was high. Deaf men earned less than hearing men but deaf women earned approximately the same as hearing women.

Boatner, Stuckless and Moores (1964) conducted the first regional survey. They were interested in determining the occupational status of the young adult of New England and the need and demand for a regional vocational training center for the deaf. Results of the study showed a very high percentage of the young deaf adults were employed in unskilled or semi-skilled jobs. Unemployment was much higher than the general population. There was a high interest for a regional training center.

Rosenstein and Lerman (1963) studied the vocational status and adjustment of deaf women who had graduated from Lexington School for the Deaf. Their results showed that 40% held clerical or sales positions; 36% were employed in semi-skilled jobs and 17% were employed in unskilled jobs.

Kronenberg and Blake (1966) conducted a second regional survey in the Southwest. They were interested in the occupational status of the young deaf adult and the need for a specialized vocational training center. They collected data from 551 subjects. They reported that 30% of the graduates were employed and 138 were unemployed. Fifty-four of the subjects were housewives. Fifty graduates were enrolled in post-secondary training programs.

It was reported that 28 of the 50 attending school were enrolled at Gallaudet College for the Deaf. Regarding job stability, they reported that 45% of the males and 64% of the females were still employed in their first job. For those presently employed, they found that 67 of the graduates held skilled jobs: 58 of the subjects reported semi-skilled jobs: 34 of the graduates were found to have unskilled jobs. Two graduates reported professional or managerial employment. The mean yearly gross income was \$2,860. The most frequent way of obtaining employment was vocational rehabilitation agencies. This was followed by parents and relatives, employment agencies and friends.

Another follow-up study of the graduates of a school for the deaf was completed by Justman and Moskowitz in New York, (1963). Their subjects went back before 1940 (graduation date). They reported that 1 out of every 5 who graduated before 1940 were still employed in their first job. The main source of obtaining their job was family, friends and relatives.

Prisuta (1970) studied hearing impaired graduates that were employed held unskilled jobs. The researcher reported the mean of \$4,373.

RESEARCH COMPARING HEARING AND HEARING IMPAIRED

In Ontario, Canada, Reich and Reich (1974) conducted a follow-up study of the deaf. They felt that "the goal of any school system was to help develop people who can function as normal adults in our society. This included getting married, raising families, working at jobs to support these families and participating in and contributing to Canadian society" (Reich and Reich, 1974).

Their purpose was to determine the actual status of the deaf in Ontario. They obtained data on 278 graduates of residential schools for the deaf. It was found that 77% and 58% of males and females, respectively, were employed. It was reported that when they applied for a job many of the deaf had someone else apply for them, and if an interview was required they would have a friend go with them to help. They compared the average wage earnings to the national figure for that year. It was reported that the average wage earnings were lower than the national figure.

Guilfoyle (1973) evaluated the vocational development of deaf adults. He was concerned with current vocational status, job-seeking behavior, post school vocational training, use of rehabilitation services and job satisfaction. Data was obtained on 30 hearing and 181 young deaf adults were employed in semi-skilled and unskilled jobs. The deaf and hearing graduates received the same initial salaries but the hearing group reported a significantly higher salary increase.

SUMMARY

In conclusion, it was seen that there has been many follow-up studies of both hearing and hearing impaired graduates. All the studies researched post-high school activities and occupational status of the graduates. Only one study (Reich and Reich, 1974) compared some of their results to the national figure. Guilfoyle (1973) was the only researcher who compared hearing and hearing impaired graduates. This was evidence of the scarce research comparing hearing impaired to hearing graduates.

III. METHODS

INTRODUCTION

This chapter explained the methods used to select both the hearing and hearing impaired subjects. It also described the instrument utilized to collect the data. It gave information about the interviewers and included the procedures employed for each group. A statistical design was also included in this chapter.

SELECTION OF THE POPULATION

HEARING

The study included all of the reported 1974 occupational program graduates, with the exception of Business Education, in Pennsylvania. All subjects participated in a bonafide vocational education program for at least two years. The subjects were residents of Pennsylvania. They had to meet the following criteria: (1) no diagnosed organic impairment; (2) obtain an I.Q. score of 70 or above on standardized intelligence test; and (3) presented no diagnosed psychosis.

HEARING IMPAIRED

The subjects for this research were all hearing impaired 1974 graduates who accepted an invitation to participate in the study. Graduates of Western Pennsylvania School for the Deaf, Scranton Oral School, Pennsylvania School for the Deaf, intermediate units, and private schools who qualified were utilized in the study.

All of the subjects had to have participated in a bona-fide vocational education program for at least two years. The subjects were residents of Pennsylvania. They had to meet the following criteria: (1) no diagnosed organic impairment other than hearing loss; (2) obtained an I.Q. score of 70 or above on standardized intelligence test; (3) presented no diagnosed psychosis and (4) had at least a 40 to 50 dB loss for the speech range in the better ear.

INSTRUMENT

The "High School Graduate Follow-Up Career Survey" form was utilized to collect the data from the hearing and hearing impaired graduates.

The survey was developed by the Educational Systems Research Institute (1973) for the Pennsylvania Department of Education. The graduate's present status, employment status and post-high school training were included in the responses. The instrument was designed to be filled in by the graduate. This procedure was used for the hearing graduates. For the hearing impaired graduates a trained interviewer recorded the responses of the graduate during the interview.

PROCEDURE

HEARING GRADUATES:

The survey, conducted by the Bureau of Vocational Education, consisted of two questionnaire mailouts to all reported graduates of a occupational program in Pennsylvania for 1974. The first mailout was made to all reported graduates during November, 1974.

The graduates who did not return the first questionnaire received a second questionnaire during January, 1975. The second mailing gave the local school districts the option of enclosing a personal appeal to the graduates to respond to the questionnaire. A postage-paid, pre-addressed envelope accompanied the questionnaire with each mailing.

This researcher did not interview the hearing subjects. The researcher gathered the needed information from the Pennsylvania Vocational Educational Management Information Directory. This was annually published by the Bureau of Vocational, Technical and Continuing Education, Department of Education, Harrisburg, Pennsylvania. It reported the results from the "High School Graduate Follow-Up Career Survey" for the 1974 school year.

HEARING IMPAIRED GRADUATES

The use of certified mail and personal visits were employed to persuade subjects to participate. Subjects who accepted an invitation to participate in the study were assigned to an interviewer. The interviewer contacted the graduate and arranged for an appointment to interview the graduate.

All subjects gave written permission to be interviewed. All information was collected from face-to-face interviews. No two graduates were interviewed at the same time; nor in the company of each other. All methods of communication, including speech, speechreading, manual and total communication were utilized during the interview.

The graduate was given a copy of the questionnaire to read along with the interviewer. The interviewer rephrased the question if the graduate did not understand the question. The interviewer gave reasons for missing data.

Questions from the "High School Graduate Follow-Up Career Survey" were included in a five page questionnaire. Questions have been re-worded so that the hearing impaired graduate would understand the language. The questions were field tested on hearing impaired adult employee and some senior year students at the Pennsylvania State Oral School in order to make the necessary changes in the language.

The results of the interviewer were sent to the project director at Bloomsburg State College, Bloomsburg, Pennsylvania where the data was processed.

INTERVIEWERS

The interviewers were chosen by the project director. They all had several years in the field of education of the hearing impaired. They included teachers, high school counselors and Bureau of Vocational Rehabilitation counselors. They were all expert signers. Some of the interviewers were registered with the Registry of Interpreters of the Deaf (RID). Some interviewers taught signing to the children, parents and interested persons.

STATISTICAL DESIGN

The researcher gathered the data on a collective basis. She analyzed the numbers and percentages for each area surveyed. Each area was recorded on a table comparing hearing (male and female) and hearing impaired (male and female). Statistical analysis was of a descriptive nature.

SUMMARY

Both hearing and hearing impaired graduates attended a vocational education program for at least two years. The High School Graduate Follow-Up Career Survey was used to collect the data for both groups. The hearing graduates were mailed the questionnaire, filled it out and returned it to the Bureau of Vocational Education in Harrisburg, Pa. The hearing impaired graduates were interviewed on a face-to-face basis. The questions had been re-worded to simplify the language. The graduates responded to the questions asked by the interviewer. The interviewers were well experienced with young hearing impaired adults. Descriptive statistical analysis was utilized to make the comparisons.

IV. INTRODUCTION

This chapter consisted of a procedural analysis, including any problems the researcher encountered, research sample and methods utilized to collect and analyze the data. The results of this study were also included in this chapter.

PROCEDURAL ANALYSIS

The researcher planned to compare hearing impaired with hearing graduates from a vocational education program for the year 1974. After the project was started and the interviewers began their interviewing of the hearing impaired graduates, the researcher was informed that the results for the 1974 hearing graduates were not available. Therefore, the researcher had to use the data compiled for 1973 hearing graduates. Since the researcher was interested in comparing graduates from the same year, she was unable to use the data for the 1974 hearing impaired graduates. The two groups compared were 1973 graduates. Selection of the population and methods employed to collect the data remained the same.

Research Sample

Hearing Graduates:

The Bureau of Vocational Education surveyed a total of 38,000 graduates. Of the 38,000 a total of 16,759 useable returns were received. This was a useable return rate of 44.1 percent. It was reported that the primary reason for the low percent was that a self-administered questionnaire was used this year for the first time.

Also, unknown addresses almost doubled from the last year. For this reason many graduates did not receive the questionnaire. It was felt that some graduates did not return the questionnaire due to neglect or forgetfulness (Pennsylvania Vocational Education Management Information Directory 1973).

All the subjects were 1973 graduates of a bona fide vocational education program in Pennsylvania. They were also all residents of Pennsylvania.

Hearing Impaired Graduates:

A total of 150 hearing impaired graduates from 1970-75 were interviewed. They were graduates of Western Pennsylvania School for the Deaf, Scranton Oral School, Pennsylvania School for the Deaf, intermediate units and private schools. Of the 150 graduates interviewed a total of 21 were 1973 graduates. This was a useable return rate of 14 percent. This was such a low percent because schools for the deaf do not graduate a large number of students per year. Furthermore, some might have been from an academic curriculum in that small sample of graduates.

Procedure

Hearing Graduates:

This researcher did not collect or analyze the data for the hearing graduates. The data for the hearing graduates was collected and analyzed by the Bureau of Vocational Education.

The graduates were mailed a questionnaire on or about November 16, 1973. Any graduate who did not respond to the first questionnaire was sent a second copy of the questionnaire on or about January 24, 1974.

The local school districts were given the option of enclosing a personal appeal requesting the graduate to respond to the questionnaire. This letter was sent with the second questionnaire. A postage-paid, pre-addressed envelope accompanied the questionnaire with each mailing (Pennsylvania Vocational Education Management Information Directory, 1973).

The data was analyzed by the Vocational Education Management Information System (VEMIS) Data Processing Center then compiled in the Pennsylvania Vocational Education Management Information Directory.

The researcher travelled to Harrisburg, Pennsylvania to gather the data on the 1973 hearing graduates. The data was recorded in many sections (for example, analyzed by sex and race, trade and industry). The researcher obtained the data from one section of the combined program survey results. This data and background information was copied from the Pennsylvania Vocational Education Management Information Directory.

Hearing Impaired Graduates:

The data for the 1973 hearing impaired graduates was obtained from face-to-face interviews. These interviews were conducted by interviewers chosen by the project director. All the interviewers were expert signers and had several years experience with the hearing impaired. The research sample consisted of all the hearing impaired graduates in Pennsylvania from 1970-75. The graduates were given an invitation to participate in the study. Each interviewer was responsible for a certain geographical area.

In those areas where there were many graduates, there was a further geographical breakdown among the interviewers. The interviewers were given the names, addresses and phone numbers of graduates they were to interview. This information had been obtained from the schools attended by the graduates. It was the responsibility of the interviewers to follow up on the invitation extended to the graduates.

The interviewers utilized certified mail, phone calls, visits, friends and family to contact the graduates and set up appointments to interview them. The interviewers informed the researcher that the main problem in interviewing the graduates was that many of them were either attending school or working out of state. The interviewers interviewed the graduates when they were home for a holiday or back to visit the school. Another problem expressed by the interviewers was that often an appointment would be set up and the graduate failed to keep the appointment.

All the graduates gave their written permission to be interviewed. The graduates were given a copy of a five-page questionnaire to read along with the interviewer. One important criteria was that no two graduates were interviewed together nor in the presence of another graduate. It was felt that the presence of another graduate would effect the answers given. The interviewers used all means of communication including speech, speechreading, manual, gestures, writing, and total communication to conduct the interview on the questionnaire. If necessary the interviewer simplified the language of the questions or gave examples.

The researcher conferred with some of the interviewers as to any problems with the language of the questions. They reported that most of the graduates understood the questions and that they did not have to give that many examples to simplify the language.

Upon completion of the interview the interviewers sent the completed questionnaires to the Pennsylvania School for the Deaf where the data was processed. The researcher made two trips to the Pennsylvania School for the Deaf to analyze the data in the hearing impaired graduates.

The responses from the questionnaires were interpreted, and coded onto computer program work sheets. From these work sheets the key punchers put the coded information onto the computer cards for analysis.

Due to the late start and the extension of the interviewing time period this computerized analysis was not done until the summer of 1976.

For the purpose of this study the researcher analyzed the data taken from questionnaires of 1973 hearing impaired graduates of vocational education programs.

STATISTICAL RESULTS:

The research results may be found in the tables included in this chapter. The research was going to analyze the data in terms of male and female, but it was noted that the results for the hearing graduates did not distinguish male and female. Therefore, this research did not separate male and female. The tables revealed the data in terms of numbers and percentages for each area surveyed.

The questions were included at the top of the tables. The numbers and percentages that were reported were not the same for all the questions. The reason for this was that the interviewers were instructed to skip items that were not applicable to the graduate. For example, it was senseless to ask a graduate specific question about his job if he reported that he had not been employed since he finished high school. Where there wasn't any data recorded for the hearing impaired graduates it indicated a "no" response to that questionnaire item.

Since there was such a difference in the number of the two groups the researcher suggested that the reader look at the percent scores.

TABLE 1: EMPLOYMENT STATUS

	HEARING		HEARING IMPAIRED	
	N	%	N	%
What Is Your Present Status?				
Employed Full-Time	9720	61.8	15	71.4
Employed Part Time	1295	8.2		
Unemployed, Looking For Work	1844	11.7	3	14.3
Unemployed, Not Looking	208	1.3		
Homemaker Full-Time	357	2.3	1	4.8
College Full-Time	1301	8.3		
College Part Time	38	.2		9.5
Vocational School Full-Time	677	4.3	2	
Vocational School Part Time	57	.4		
Other Than Above	232	1.5		
Total	15729	100.0	21	100.0

Table 1 revealed that 61.8% of the hearing graduates were employed full-time when surveyed, 11.7% were unemployed but looking for employment. It was reported that only 2.3% of the hearing graduates were homemakers full-time. A total of 13.2% were in some form of post-secondary education. The survey found that 1.5% of the hearing graduates reported status other than listed above.

Also in this table the research indicates that 71.4% of the hearing impaired graduates reported full-time employment, none of the graduates responded to the employed part time item. The researcher found that 14.3% of the hearing impaired graduates were unemployed, but looking for work, while there was no response for those unemployed and not looking for work. The research indicated 4.8% of the graduates reported being a homemaker full-time. There was only 9.2% of the hearing impaired graduates in some form of post-secondary education.

TABLE 2: EMPLOYMENT TRAINING

	HEARING		HEARING IMPAIRED	
	N	%	N	%
Upon Leaving High School Did You Want Employment In The Field Of Occupational Study?				
Yes	7704	84.6	17	81.0
No	1403	15.4	4	19.0
Total	9107	100.0	21	100.0

Table 2 indicated that 84.6% of the hearing graduates wanted to work in the field for which they were trained.

There was a percentage of 81.0% recorded for the hearing impaired graduates. It was noted that 15.4% of the hearing graduates did not want employment in the field for which they were trained. While it was found that 19.0% of the hearing impaired did not wish to work in the field for which they were trained.

TABLE 3: JOB LINE UP PRIOR TO GRADUATION

	HEARING		HEARING IMPAIRED	
	N	%	N	%
Did You Have Your First Full-Time Job Arranged Before Leaving High School?				
Yes	5771	54.1	5	25.0
No	4898	45.9	15	75.0
Total	10669	100.0	20	100.0

Table 3 revealed the findings for job line up prior to graduation. It was found that 54.1% of the hearing graduates had their job lined up before they left school. While it was recorded that 25.0% of the hearing impaired graduates had their job lined up before they left high school. The researcher found that 45.9% of the hearing graduates did not have their job arranged before they left school. The research reported that 75.0% of the hearing impaired graduates did not have their job set up before they left school.

TABLE 4: TIME BETWEEN GRADUATION AND FIRST JOB

How Many Weeks After High School Did You Start Your First Full-Time Job?	HEARING		HEARING IMPAIRED	
	N	%	N	%
Immediately	4843	45.7	13	72.3
1-2 Weeks	1585	14.9	2	11.2
3-4 Weeks	1030	9.7	1	5.5
5-6 Weeks	618	5.8		
7-8 Weeks	596	5.6	1	5.5
9-10 Weeks	423	4.0		
11-12 Weeks	423	4.1		
13-14 Weeks	235	2.2		
15-16 Weeks	277	2.6		
More Than 16 Weeks	577	5.4	1	5.5
Total	10616	100.0	18	100.0

The results in table 4 showed that 45.7% of the hearing graduates started their first full time employment immediately after high school and that 72.3% of the hearing impaired graduates began work immediately. It was found that 14.9% of the hearing graduates started work within two weeks after graduation. A percentage of 11.2% was noted for the hearing impaired graduates.

TABLE 5: AVERAGE EARNINGS OF GRADUATES

In What Range Does Your Monthly Gross Salary Fall?	HEARING		HEARING IMPAIRED	
	N	%	N	%
Below \$400	4236	46.1	4	25.0
\$400-449	1916	20.7	4	25.0
\$450-499	853	9.2	3	18.8
\$500-549	692	7.5	2	12.6
\$550-599	388	4.2		
\$600-649	428	4.6	1	6.2
\$650-699	187	2.0	1	6.2
\$700-749	161	1.7		
\$750-799	169	1.8		
\$800 or more	183	2.2	1	6.2
Total	9240	100.0	16	100.0

It was found (table 5) that almost half (46.1%) of the hearing graduates earned less than \$400, while 25% of the hearing impaired earned less than \$400. It was also noted that more hearing impaired graduates (25%) made between \$400 and \$449. A percentage of 20.7 was recorded for the hearing graduates.

It was also recorded that more hearing impaired graduates (6.2%) earned more than \$800. The hearing graduates had a percentage of 2.2.

TABLE 6: STUDENT RATING OF VOCATIONAL TRAINING

	HEARING		HEARING IMPAIRED	
	N	%	N	%
How Well Did Your High School Occupational Course Prepare You For Your Present Job?				
Excellent Preparation	1840	40.4	2	13.3
Good Preparation	2255	49.5	8	53.4
Fair Preparation	399	8.8	5	33.3
Poor	64	1.3		
Total	4558	100.0	15	100.0

The results in table 6 revealed that both hearing and hearing impaired graduates rated the preparation for their present job as good, 49.5% and 53.4% respectively. It was seen that more hearing graduates rated their high school preparation as excellent, whereas the hearing impaired graduates responded with the lowest percentage for this item (13.3%). It was noted that none of the hearing impaired graduates responded with "poor preparation."

TABLE 7: RELATEDNESS OF JOBS HELD TO TRAINING

	HEARING		HEARING IMPAIRED	
	N	%	N	%
How Related Is Your Present Job To Your High School Occupational Course?				
Same Occupation Studied	2500	26.9	5	31.3
Highly Related	2107	22.7	2	12.5
Slightly Related	1817	19.5	3	18.7
Completely Unrelated	2876	30.9	6	37.5
Total	9300	100.0	16	100.0

The findings in table 7 indicated that more hearing impaired graduates were holding jobs in the occupation for which they were trained. More hearing graduates reported working at jobs that were highly related to their high school occupational course. It was noted that there was only a difference of about one percent between the two groups for jobs slightly related. A difference of seven percent was recorded for jobs completely unrelated between the two groups evaluated.

TABLE 8: REASONS FOR NOT ENTERING FIELD FOR WHICH TRAINED

	HEARING		HEARING IMPAIRED	
	N	%	N	%
What Was The Main Reason For Not Getting A Job In The Field Of Study?				
Never Planned to Work in Field	375	8.8	1	16.7
Tried, But Could Not Find Job	1146	27.0	3	49.9
Did Not Feel I Learned Enough	401	9.5	1	16.7
Discovered Pay Was Too Low	351	8.3	1	16.7
Did Not Like Type Of Work	509	12.0		
No Advancement Opportunity	110	2.6		
Did Not Like Working Condition	99	2.3		
Better Job Came Along First	758	17.9		
Not Accepted As Apprentice	72	1.7		
Reason Other Than Above	420	9.9		
Total	4241	100.0	6	100.0

In table 8 the researcher found that almost half of the hearing impaired graduates tried, but could not find a job in the occupation for which they were trained.

In comparing this response with the hearing graduates it was found that there was a difference of about 22%. It was also recorded that 17.9% of the hearing graduates did not get a job in the field of study because they got a better job. It was noted that none of the hearing impaired marked this response.

TABLE 9: HOW STUDENTS FOUND THEIR JOBS

Method Used To Get First Job After High School	HEARING		HEARING IMPAIRED	
	N	%	N	%
Thru School Co-Op Program	1384	15.0		
Thru Vocational Teacher	855	9.2	4	23.5
Thru School Counselor	256	2.8	2	11.8
Thru School Placement Office	130	1.4		
Thru Other School Personnel	171	1.9		
Private Employment Agency	176	1.9		
State Employment Agency	304	3.3		
Thru Parent or Relative	1147	12.4	10	58.8
Thru Family/Personal Friend	1640	17.8	1	5.9
On My Own, Without Any Help	3161	34.3		
Total	9224	100.0	17	100.0

Table 9 revealed that over half (58.8%) of the hearing impaired graduates obtained their employment thru parents or relatives. It was noted that this response was relatively high among the hearing graduates (12.4%). None of the hearing impaired graduates obtained their job thru a co-op program at their school. It was found that more hearing graduates got their job thru their school counselor (11.8%) and vocational teachers (23.5%) than the hearing graduates,

school counselors (2.8%) and vocational teachers (9.2%). There was a low percentage among the hearing graduates for using placement centers (1.4%) and employment agencies (5.2%). There wasn't any data for the hearing impaired in this category. Also the researcher found that 34.3% of the hearing graduates got their job on their own, without any help. No data was obtained for the hearing impaired graduates.

TABLE 10: POST-HIGH SCHOOL EDUCATION

	HEARING		HEARING IMPAIRED	
	N	%	N	%
What Type Of College Or School Are You Now Attending?				
Community College	646	21.3	1	25.0
Private 2 Year College	171	5.6		
State College Branch Campus	301	9.9		
State College Main College	359	11.8		
Private 4 Year College	306	10.0		
Private Business School	384	12.7		
Private Technical School	275	9.1	1	25.0
Area Vo-Tech School	257	8.5		
Other School	336	11.1	2	50.0
Total	3035	100.0	4	100.0
Where Is The College Or School You Now Attend Located?				
In State	2546	85.7	3	75.0
Out Of State	425	14.3	1	25.0
Total	2971	100.0	4	100.0

(TABLE 10 - continued)

	HEARING		HEARING IMPAIRED	
	N	%	N	%
Do You Live At Home Or At School?				
At Home	1770	62.0	2	50.0
At School	1083	38.0	2	50.0
Total	2853	100.0	4	100.0
Are Present Studies Related To Your High School Occupational Course?				
Related	1792	66.0		
Unrelated	923	34.0	3	100.0
Total	2715	100.0	3	100.0

Table 10 showed that more hearing impaired (25.0%) were attending private vo-tech school, whereas only 9.1% was recorded for the hearing graduates. It was noted that there was only 4 hearing impaired graduates who responded to this question.

With location of school it was noted again that only 4 hearing impaired graduates responded. There was not a significant difference noted between the two groups.

In this table it was also noted that half of the hearing impaired lived at home and the other half lived at school. There were 12% more hearing graduates than hearing impaired graduates that lived at home.

It was also found that all three hearing impaired graduates recorded their present studies were unrelated to their high school training.

SUMMARY

The main problem with the research was that the data for the 1974 hearing graduates was not available and the researcher had to use the data analyzed for the 1973 hearing graduates. Therefore the research sample consisted of 1973 hearing and hearing impaired graduates of vocational education programs. The total population of hearing graduates was 16,759. There were only 21 hearing impaired graduates.

The data for the hearing graduates was collected and analyzed by the Bureau of Vocational Education. The researcher gathered the needed information and data from the Pennsylvania Vocational Education Management Information Directory.

The hearing impaired graduates were interviewed by trained interviewers. One of the main problems the interviewers encountered was the failure of the hearing impaired graduates to keep appointments.

The research found that about 71% of the hearing impaired graduates and 61% of the hearing graduates were employed full-time. There wasn't a significant difference between the two groups in motivation to work in the occupation studied. It was found that more than half of the hearing impaired graduates started work immediately after graduation. The data revealed that almost half (46.1%) of the hearing graduates earned less than \$400 a month, while 25% of the hearing impaired earned less than \$400 a month.

It was also recorded that almost 50% of the hearing impaired tried, but could not find a job in the field of study.

V. INTRODUCTION

This chapter explained the research's findings and conclusions of the study. Also included was the researcher's recommendations for further research.

CONCLUSIONS

The first area studied in the research dealt with the present status of the hearing and hearing impaired graduates. The data revealed that 61.8% of the hearing graduates were employed full-time, while there was a percentage of 71.4% recorded for the hearing impaired graduates. The researcher expected the hearing graduates to have a higher percentage than the hearing impaired graduates. The hearing impaired graduates may have had a higher employment percentage than the hearing graduates because more hearing graduates attended post-secondary schools. Therefore, more hearing impaired graduates would be working as opposed to attending college or vocational school. This was evidenced by the fact that a total of 14.7% of the hearing graduates were either attending college or other schools full-time or part time, whereas only 9.5% of the hearing impaired graduates were attending a vocational school full-time.

Another reason may be attributed to the fact that residential schools for the deaf place a major emphasis on job placement in their programs. This was evidenced by the results of this study. More hearing impaired graduates (23.5%) obtained their first full-time employment thru their school.

Whereas, only 15.0% of the hearing graduates used their school to help them find a job.

It was also expected that the hearing graduates would have a higher percentage of full-time post-secondary education (including college and vocational school). The percentages of 12.6% and 9.5% for the hearing and hearing impaired, respectively, showed this to be true. The researcher felt that more hearing graduates would have attended college and vocational schools as full-time students because many hearing impaired persons have difficulty passing the entrance exams to college. This is due to their low reading level and language impairment.

As noted in chapter 4, table 1, there was no response from the hearing impaired graduates for the following: part time employment, vocational school part time, unemployment (not looking for work), college part time and other status. The researcher felt that there were probably some hearing impaired graduates that fell into these categories, but because of the limited sample of hearing impaired subjects, there weren't any in this study.

There was a very low percentage (.6%) of part time school attendance among the hearing graduates. This influenced the researcher to think that not many graduates attended school part time. This was probably true for hearing impaired graduates also. Most graduates, hearing and hearing impaired, either attended post-secondary education full-time or not at all.

The researcher also had anticipated that more hearing impaired graduates would have been employed part time, but the data showed no response for that item.

Even if a larger sample of hearing impaired graduates were surveyed part time employment might have had a low percentage because most graduates who were attending post-high school education were enrolled as full-time students. It was felt that those hearing impaired graduates who were enrolled as full-time students would probably not be working part time.

The researcher expected that more hearing impaired graduates would be unemployed and looking for work. However, the data showed (11.7% hearing; 14.3% hearing impaired) that there wasn't that great of a difference between the two groups. This finding was very understandable because of the nation's general economy and unemployment situation.

It was expected that more hearing graduates had their job lined up before they graduated. This was evidenced by the data in table 3. This was probably due to the fact that hearing graduates had participated in more sophisticated co-op programs and worked on a job while they were being trained in high school. Therefore, they would have had their job lined up with their co-op employer before they graduated. Also, it was felt many employers hired hearing graduates before hearing impaired graduates.

In the next area (found in table 4), time period between graduation and first full-time employment the research revealed that 72.3% of the hearing impaired graduates started work immediately after graduation while 45.7% was noted for the hearing graduates.

Even though the data in table 3 showed that more hearing graduates had their job arranged before graduation it didn't necessarily mean they started work immediately. It appears that hearing graduates have been more prone to take time off in between graduation and employment.

The researcher was surprised to find such a high percentage of immediate employment among the hearing impaired graduates. This was good because it proved that the vocational departments within the schools were helping the students find immediate employment.

The researcher was puzzled with the results found in table 5. The data revealed that less hearing impaired graduates made under \$400. She felt that there was not a sufficient number of hearing impaired subjects to make a valid comparison between the two groups. One of the obvious reasons for these results was that more hearing graduates were attending post-high school education and if they were working it was probably part-time, therefore earning less.

Another area analyzed was the graduates rating of their vocational training for their present job. The result showed that approximately half of both groups rated their vocational preparation as good. The researcher was pleased that there was little difference between the two groups. This means that over half of the hearing impaired graduates felt they had received good training.

The researcher expected that the hearing graduates would have had a higher percentage for employment in the same or a highly related occupation to that studied in school.

The findings showed that 31.3% of the hearing impaired graduates held jobs in the same occupation studied. Whereas, 26.9% was recorded for the hearing graduates. It was felt that the reason the hearing impaired graduates had a higher percentage was probably the result of the fact that once they were skilled in a trade they continued to work at this occupation.

It was also found that there were almost 7% more hearing impaired graduates who were employed in completely unrelated occupations. The researcher thought this was so because hearing impaired graduates had a difficult time finding a job in the field for which they were trained.

The study also revealed that almost half of the hearing impaired graduates tried, but could not find a job. Whereas, only 27.0% hearing graduates listed this as the main reason for not getting a job in the field for which they were trained. The researcher speculated that this would happen because hearing impaired graduates have a more difficult time finding a job.

Also, 17.9% of the hearing graduates reported finding better employment than for what they were trained. This was probably because hearing graduates would have adapted easier than hearing impaired graduates to a different occupation than what they were trained for in high school. None of the hearing impaired graduates responded with this reason.

The research revealed (table 9) that over half (58.8%) of the hearing impaired graduates got their jobs thru parents or relatives. Whereas, only 12.4% of the hearing graduates used this method. This result was expected.

Other studies have found this to be the most frequent method for hearing impaired graduates to obtain full-time employment (Crammatte, 1968).

It was also noted that over 30% of the hearing graduates found their job on their own, without any help. Not one hearing impaired graduate responded to this method, which was probably due to the fact that the hearing impaired graduate's communication problem prohibited him from going out and seeking a job on his own.

The study found that 15.0% of the hearing graduates got their jobs thru school co-op programs. Again, there were no responses to this method for the hearing impaired graduates. The researcher concluded that vocational education programs for the hearing impaired should get involved in more sophisticated co-op programs.

The data found on post-secondary education was very difficult to interpret because of the limited hearing impaired sample. The researcher felt that not enough hearing impaired graduates attended post-secondary schools to draw any valid conclusions. This was evidenced in table 1, where it was noted that only 9.5% of the hearing impaired graduates listed post-secondary education as their present status.

The researcher felt that any hearing impaired graduates who attended a post-secondary school would have been enrolled in an academic curriculum in high school. These graduates were not surveyed in this study. It was concluded that the reason hearing impaired graduates were enrolled in a vocational education program in high school was so that they would be trained in a skill which would help them find employment after graduation.

Another reason for the limited sample of hearing impaired graduates in this study was that many of the graduates who were attending college or vocational schools were enrolled in programs designed specifically for the hearing impaired (ex. Gallaudet College, Washington, D.C. and National Technical Institute for the Deaf, Rochester, N.Y.). These programs were not in Pennsylvania and therefore, the graduates were not living at home. It was very difficult for the interviewers to arrange interviews with these graduates.

RECOMMENDATIONS

Following are some recommendations for vocational rehabilitation agencies.

1. Job Development -- agencies should recognize the special demands of job development and should recruit persons with appropriate business or industrial backgrounds who have a strong interest in the deaf to aid the rehabilitation counselor in the job development aspects of rehabilitation.
2. Work Study Programs -- a series of video-tapes or films showing deaf people working in a variety of jobs should be developed for young hearing impaired students. These could show the hearing impaired students a description of an occupation and how to hold on to jobs. A series could be developed to show the students what employers expect of their workers. A third set could help the students get "ready" to go to work, for example, how to look for a job, where to look, how to complete an application form, how to behave during a job interview.

3. Using the Job Bank -- the agencies should become actively involved with the Employment Service in planning how computer technology can be helpful to expedite the job search. The job bank could be a useful tool to counselors and thereby widening the range of job opportunities to clients.

Finally and most important is that state vocational rehabilitation agencies, residential schools and intermediate units work together to set up a greater variety of work-oriented programs and supportive services for the hearing impaired students during their final years of schooling (Atelsek and Mackin, 1971).

RECOMMENDATIONS FOR FURTHER RESEARCH

It would be beneficial to study the physical and social surroundings in which the hearing impaired graduates were working; the extent and nature of contact with the vocational rehabilitation agency and counselor since the worker graduated and began work. Also, it would be interesting to evaluate the services which the vocational education program and/or rehabilitation counselor had made available, for example, interpreters for in-plant training sessions; the use of any special employment adjustment techniques (job coaching or "buddy" systems). Another area which could be surveyed would be to see if employers made any special changes to accommodate the hearing impaired worker. Another study could research the graduates reactions to typical modes for follow-up and their views on how follow-up studies should be revised to be more effective and/or less intrusive.

Follow-up studies could continue on a state-wide level comparing hearing impaired graduates to other handicaps, for example, blind, educable retarded and orthopedically handicapped.

It would also be very helpful to the post-secondary activities of the hearing impaired graduates to evaluate the weaknesses and strengths of their vocational education programs in order that they could function successfully in the hearing world.

APPENDIX

PAGE 54 CONTAINING A PORTION OF THE HIGH SCHOOL GRADUATES
FOLLOWUP CAREER SURVEY WAS NOT REPRODUCIBLE AND WAS REMOVED
FROM THIS DOCUMENT PRIOR TO ITS BEING SUBMITTED TO THE
ERIC DOCUMENT REPRODUCTION SERVICE.

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